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Vol. 65, No. 8, AMERICAN FRUIT GROWER, published monthly by American Fruit Grower Publishing Co., 1370 Ontario St., Cleveland 13, Ohio. Subscription rates: Domestic, except Cleveland, 3 years $1.00. One year, 50 cents. Cleveland, Canada and foreign $1.00 per year. Single copy, 10 cents. Entered at second-class matter at Post Office at Cleveland, under the Act of March 3, 1879. Additional entry at Mount Morris, Illinois. Printed in U. S. A.

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HOW "PARMONE" WORKS

"Parmone" delays the weakening of the joint between the fruit stem and spur.

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Full ripening helps produce better yields, quality, color and size.

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The most important days of the year—the last few days before harvest—lie ahead.

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"Parmone" pre-harvest fruit drop inhibitor gives your fruit those extra days to develop better size, color and quality by reducing pre-harvest drop from one to three weeks. It increases your yield of high-quality fruit, so urgently needed this year.

For best results, application should be delayed until the beginning of fruit drop (a bit earlier for McIntosh)—but don't delay too long. "Timing" is important because "Parmone" neither slows up nor hastens ripening. For advice see your Du Pont Dealer or local fruit authorities.

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Here's why STAFAST is the *"stand-out"* in hormone spray efficiency: it's high in active ingredients . . . it's the pre-harvest spray with naphthalene acetic acid *plus.* STAFAST has "built in" wetting and adhesive agents for maximum mixing, spreading, and sticking. It does not require the addition of oil; comes in dry powder form for *complete stability* under all conditions!

Easy to use too—merely sifted into the spray tank. So be *market wise* . . . be ready with STAFAST. Order it from your Orchard Brand Dealer *today!*

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LETTERS TO THE EDITOR

A Barrel of Russets to Spare

Gentlemen:

In your April issue I note in a letter from R. M. Clothier the statement, "No farmer on earth would make his horses eat Hubbardsons, King Davids, Russets, Ben Davis, Wealthy and about another hundred varieties still being grown in New York State on a commercial scale . . ."

I am not acquainted with the other varieties, but I would like to know where to buy Russets. In my mind, the Russet is the best apple for eating or for cider ever grown and all the elderly people I know say the same thing—and one and all bemoan the fact that of late years the Russet is unobtainable.

So I would greatly appreciate your advising me where, next fall, I might purchase a barrel or two of the fruit.

Marlin, Texas Dr. R. D. Brown

Can someone come to Dr. Brown's rescue by supplying him with a barrel of Russets next fall?—Editor.

Replace Weak Trees

Gentlemen:

Last year I bought young pear trees to set out and this year there are no green leaves on the tops of them. A few green sprouts come out about 8 inches from the ground. Does this mean they are dead or is the green growth from the root graft?

Detroit, Mich. Arthur Gow

Trees are usually budded nearer the ground than 8 inches, so that the green shoots or sprouts that you mention are probably from the trunks of young trees. It is possible to select the best side shoot, cut off the trunk above it and make a tree of it. However, it sounds as though your trees have practically died from some cause, and usually it is better to replace them.—Ed.

Canning Without Sugar

Dear Sir:

This letter is written to you in the interest of the health of our fellow citizens. My interest was aroused on reading the editorial entitled, "Less Sugar for Canning," in your May issue.

The sugar question has become quite a problem to many because of a perverted appetite for sweet things. Having lived without the use of it for twelve years now, it is with much satisfaction that I write to you and tell you it is not only more healthful, but also more economical to live without the use of sugar.

Because of ill health I was advised to discontinue the use of all sweets except the natural sugar found in fruits and vegetables, so it was necessary to try to learn how to can fruit without the use of sugar or honey. I find that fruit not only keeps better, but its natural flavor is preserved if canned as directed below:

After washing and removing seeds, the fruit (peaches should be de-fuzzed by rubbing with a dry cloth before getting wet) is cut in pieces and put into a large granite stew kettle over another kettle filled with water and steamed until tender; add no water or sweetening.

Prepare jars as for canning open kettle method. Place fruit in hot sterilized jars and seal immediately. Fruit may also be cold packed without sugar and water.

The above is the best way to can for health, but it has been discovered that there is an even beter way to utilize fruit to preserve the minerals and vitamins in their most natural state and that is to dry them in the sun. When wanted for use, wash, cover with boiling water and let stand for several hours, or over night, if desired.

It is my prayer that many will adopt this latter method of preserving fruit and obtain better health which many of us greatly need.

San Andreas, Calif. Mrs. M. Fischer

Canning without sugar is not new and will undoubtedly be practiced by many homemakers this year since sugar is scarce. Following the usual directions for canning each fruit, cherries, pears, peaches, apples, plums and prunes may be canned successfully in water instead of sirup (water and sugar solution). The use of a little salt will remove some of the tartness and bring out the fruit flavor. For each quart of fruit, use ⅛ to ¼ teaspoon of salt.

Sun-drying is indeed an ideal way of preserving the minerals and vitamins in fruits. However, the necessary climatic conditions for drying are not prevalent in all sections of the country as they are in your native state of California.—Ed.

Sheepnose Alias Gilliflower

Dear Sir:

I have noted in the June issue of the AMERICAN FRUIT GROWER your reply to Glen F. Morgan, Washington, D.C., relative to the Sheepnose apple. I am of the opinion that the particular type to which he refers is the Black Gilliflower, an old variety which at one time was grown quite widely throughout the Eastern States. At the present time, I doubt if it is in any of the trade lists. It is possible that it might be in the collections of the experiment stations at Geneva, New York or Wooster, Ohio.

I was also interested in your notation concerning the Horse apple. (April, 1945 issue). This is the variety generally recognized as the Haas or Gros Pommier. In this state, it had a reputation of being very hardy and made a very fine intermediate stock for use in top working. However, this stock proved to be very tender to the unusual fall freeze which we had on November 11, 1940. In one orchard with which I was familiar, there were some forty-year-old Jonathan trees on this stock which would carry crops of fifty bushels per tree.

Iowa Experiment Station, T. J. Maney
Ames, Iowa.

The consensus of opinion among readers of the AMERICAN FRUIT GROWER seems to be that the Sheepnose apple of Mr. Morgan's boyhood memories must be the Black Gilliflower. We want to thank the many growers who have so kindly offered to send Mr. Morgan cions for use next spring in the event that he cannot obtain trees of this variety.—Ed.

Frost Factors to Consider

Dear Mr. Meister:

I read the article "How Much Cold Can Fruit Take?" in the May issue, with considerable interest and believe that it is partly true, but does not tell the whole tale. In fact, I have seen enough frost work in Colorado and in Idaho to become convinced that one can hardly make a statement even after keeping close records as to what temperature will kill and what temperatures fruit blossoms or young fruit can take without killing.

It seems to me that there are several factors involved. One of which is the time which the temperature is below freezing point, and the more important one is that of temperatures for a week or ten days preceding the freeze. I have seen frost in New England that was merely good white frost that cleaned out the whole apple crop when the trees were in bloom. I have known frosts, night after night, when trees were blooming with little damage done. In fact, I have seen icicles on young fruit in Colorado and while the pears and apples had russet rings when developed, they still made fruit.

These observations have convinced me that resistance of blossoms or newly-set fruits to frost, to a considerable degree, depends on whether the blossoms, buds, or fruits are soft as the result of fast development just previous to the freeze or hardened as a result of slow development.

This is one of the things that is rather difficult to experiment with, but will probably always have to be more or less a matter of observation unless the work is done under greenhouse or controlled conditions.

University of Idaho, E. R. Bennett
Boise, Idaho Victory Garden Specialist

Mark Twain once said, "Everybody complains about the weather, but nobody does anything about it." Each year modern science is proving Mark Twain's accusation more untrue. Man now is not only recording and predicting the weather, but is slowly learning to control its work as well. Who knows what the coming years will bring in the development of this science?—Ed.

The Keys to Success

To the Editor:

My reason for writing this letter is to bring to the attention of some—notice I said "some"—growers, their lack of foresight in operating their orchards on a businesslike basis when their books indicate a not-too-healthy bank account.

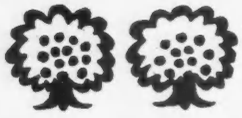
Let's take a manufacturer who is having business trouble. Maybe his business is not showing the percent of profit that it should. What does he do—usually? He calls in a high salaried executive who KNOWS the business and tells him how to do the job right. To find out the "why" of bad business and to correct same. This manufacturer's expenses actually increase for the time being.

But what does the orchard man do when he finds his business failing? He cuts wages, lays off the most expensive help (usually the top men in his organization) and substitutes with cheaper day labor. He then decides not to spend any more money on repairs, improvements or new equipment. He discards the use of the export tub for apples and buys the single stave basket for all his fruit.

What do I suggest? That starting now and including every new steady employee he might hire in the future, the grower should hold weekly sessions of instruction. That the men be instructed in the *why* of spraying, fertilization, pruning, etc. It is the writer's candid opinion that not more than 10 percent of the present day spray men know why they are using 3, 4, 5, or 600 lbs. pressure. The answer I usually receive is to the effect that it enables them to reach the tops of the trees on a windy day.

Or, you might ask them why they are using the present ingredients in the spray tank and I surmise they would answer because the state men recommended them. Why shouldn't the spray men understand the difference between lime sulphur and wettable sulphur? Why shouldn't they be told the reason for using arsenate of lead on apples rather than calcium arsenate; or magnesium arsenate? Why should they not understand the reason for using soy flour, skim milk or soap for a spreading agent?

(Continued on page 21)

KEEP THOSE  ON THE  AND OFF THE GROUND

WITH FRUITONE

REG. U. S. PAT. OFF.

YOU GET

- MORE APPLES
- BETTER COLOR, SIZE, QUALITY
- LONGER PICKING TIME
- FEWER WORTHLESS WINDFALLS

Orchardists, here is a spraying or dusting agent to help you check that expensive pre-harvest drop! Spraying (or dusting) with FRUITONE keeps the abscission layer green, holds McIntosh on the trees 8 to 10 days longer, all other varieties 3 to 4 weeks longer.

A FRUITONE treatment costs about 1¢ a bushel, but *more* apples come to full maturity, size, and color. Fruitone holds the fruit on the trees so the sun can finish its job.

Pick quality fruit from the tree, not bruised fruit off the ground. For best results, it is important to spray the trees at the right moment. Write today for our maturity schedule.

AN APPLE ON THE TREE IS WORTH A BUSHEL ON THE GROUND

FRUITONE for spraying comes in 12-lb. cases. FRUITONE for dusting comes in 50-lb. bags.

1 lb. Dust Fruitone gives same coverage as 10 gals. of Spray Fruitone.

½ lb. Fruitone makes 100 gals. of spray, enough to cover ten average 10-year-old trees, or five average 20-year-old trees.

10 lbs. Dust Fruitone covers ten average 10-year-old trees, or five average 20-year-old trees. Order your supply NOW!

FRUITONE

The 2-hormone spray or dust to stop pre-harvest drop. Distributed by the

California Spray-Chemical Corp.

FILL IN, CLIP, AND MAIL TODAY

AMERICAN CHEMICAL PAINT CO., *Manufacturers*

Horticultural Division, AF-8 **Ambler, Pa.**

Please send me your maturity schedule at once. I have ..... apple, ... pear trees, mostly ..... years old. I use spray ☐ dust ☐

Name .....

Address .....

Town ..... State .....

WIDENING THE FRUIT JUICE MARKET WITH CONCENTRATES

FREEZING METHOD OF CONCENTRATING FRUIT JUICES HOLDS PROMISE FOR GROWERS

By J. FRANCIS COOPER

Extension Editor, University of Florida

A NEW method of concentrating citrus juice by freezing and centrifuging, developed by Dr. A. L. Stahl in the laboratories of the University of Florida Agricultural Experiment Station, is believed to hold promise of materially wider markets for citrus after the war.

The Florida Citrus Commission has supplied a pilot plant for the research and two firms already have erected concentration plants at Orlando, but are unable to operate at present because of government juice restrictions.

The new method gives a juice in concentrate form which requires small space in storage, keeps indefinitely, and retains all of the finer qualities of the fresh product. At certain concentrations it can be stored at room temperatures, at lower concentrations it must be kept in cold storage. It will be ready to take its place in the contents of home cold storage and freezing units now foreseen as slated for vast expansion as soon as war conditions permit, as well as in the units of grocery stores, drug-stores and other commercial outlets.

Cold concentration preserves citrus juices better than any other method now known. The juices are highly sensitive to heat, their flavors are largely due to organic bodies which are highly volatile and easily driven off by heat, their sugars and acids are liable to decomposition on prolonged heating, and the pectins they contain make them viscous and liable to foam when concentrated by heat. Juice concentrated by freezing and centrifuging maintains a richer fruit flavor because no volatile flavors or aromas are lost during the process and chemical changes are reduced to a minimum. The concentrated juice, when reconstituted, tastes just like fresh juice, its solids stay in suspension even better than do those of fresh juice, and its vitamin and other values are practically equal to the fresh product.

As originally developed, Dr. Stahl's process would freeze the juice to a "slush" and then centrifuge it or separate the liquid portion from the icy solids by whirling at high speed. The water in the juice freezes first and thus can be left behind as solid when the remaining liquid is removed.

Fresh citrus juice contains from 10 to 12 percent soluble solids or, in the language of the scientist it has a Brix reading of 10° to 12°. By freezing the juice to a slush and centrifuging, Dr. Stahl was able to bring the Brix reading up to 30 to 50 degrees. In other words, he had removed from one-half to three-fourths of the water from the juice on the first centrifuge. If this is not as concentrated as desired, it can be refrozen and recentrifuged and carried to a concentration of about 65° Brix, but this dense concentration was found to be impractical. Juice with about 44 percent soluble solids —four times the strength of fresh juice—seemed to be the most practical, and could be obtained in one or two freezings and centrifugings, depending upon the type of citrus juice being concentrated.

But desiring to speed up the process, Dr. Stahl got hold of a Flak-Ice machine such as the Army uses to make ice in the field. The small machine freezes so rapidly that juice (or water) can be poured on at one side and ice will fall off at the other—it is almost instantaneous. Dr. Stahl found that juice frozen in this way can be centrifuged once and give the desired concentration, making the process much more rapid.

In the recently installed pilot plant in the laboratory at the Experiment Station he is attempting to take the kinks out of the commercial manufacture of the cold concentrate. His equipment includes a batch ice cream freezer, the Flak-Ice machine, a large centrifuge, other freezers, vacuum pack machines and other equipment.

In all of his investigations the juice is extracted by slow reaming in such a way as to include the least amount of rind oil and other objectionable substances which would result in poor taste for the juice. As soon as the juice is extracted it is run through an 18-mesh sieve and into a vacuum, where it is completely deaerated. It is then frozen and concentrated, the loss from each spinning being not over 2 percent.

The concentrated juice is packaged in air-tight containers of convenient sizes. If stored frozen the juice is not distinguishable from the fresh product when reconstituted even several years later.

Orange, tangerine and grapefruit concentrate will keep for two months at room temperature, for four to six months at refrigerated temperature without spoilage but with some deterioration, and almost indefinitely if frozen. Dr. Stahl found that Valencia orange juice concentrated and stored frozen for 22 months contained 85 percent as much vitamin

(Continued on page 8)

TO SAY that Americans are fruit juice conscious is putting it mildly. During the past ten years consumption of fruit juices and new uses for concentrates have grown to such proportions that production and preservation of fruit juices is now one of America's important food industries.

Scientific research and much investigation has resulted in an improved product of satisfactory keeping quality and with both eye and taste appeal which is attracting the attention of the beverage manufacturer, the baker, the confectioner, the preserver, and the ice cream maker, as well as the general public.

Th fruit industry is definitely on the threshold of something big in fruit juices. The concentrating of citrus juices described in this article is another step in the expansion of the fruit juice and concentrate market. There is no reason why other fruits cannot be similarly processed and packaged, offering all fruit growers opportunities for profits.—Editors.

(Continued from page 7)

C as the original juice; had not changed in acidity taste or color; and could not be distinguished from fresh juice.

At storage temperatures of 0° Fahrenheit, as found in most commercial and retail frozen storage compartments, a citrus concentrate of 48 degrees Brix is the consistency of ice cream.

Reconstitution is accomplished in a few seconds by adding a measured amount of tap water to the frozen juice and stirring with a spoon. Where the Brix reading is around 48, the concentration is one to four, three quarts of tap water are required for each quart of concentrate. By the time the frozen juice is melted it is at the right strength for drinking, there is no need to wait for the ice to thaw, as would be necessary with frozen single strength juice, or to add ice, which is necessary to cool either canned or fresh juice. The concentrate cools itself and is ready to serve almost instantly. The reconstituted juice has exactly the same soluble solids constant or Brix reading as freshly extracted citrus juice.

Thus it can be used to advantage by the sweet shop and soda fountain, and it is expected to find considerable popularity there. At 15 to 20° Fahrenheit 44 degree juice is the consistency of sirup, and Dr. Stahl envisions it being dispensed very much as soft drinks are dispensed at the soda fountain.

The Florida horticulturist says the cold method of concentration has been found to be adapted to all types of citrus juices, being equally satisfactory for orange, grapefruit, tangerine, Temple, lime and lemon juices, and even for tomato and other juices.

Concentrated lime and lemon juices can be stored at room temperatures, since they are sufficiently acid to prevent deterioration.

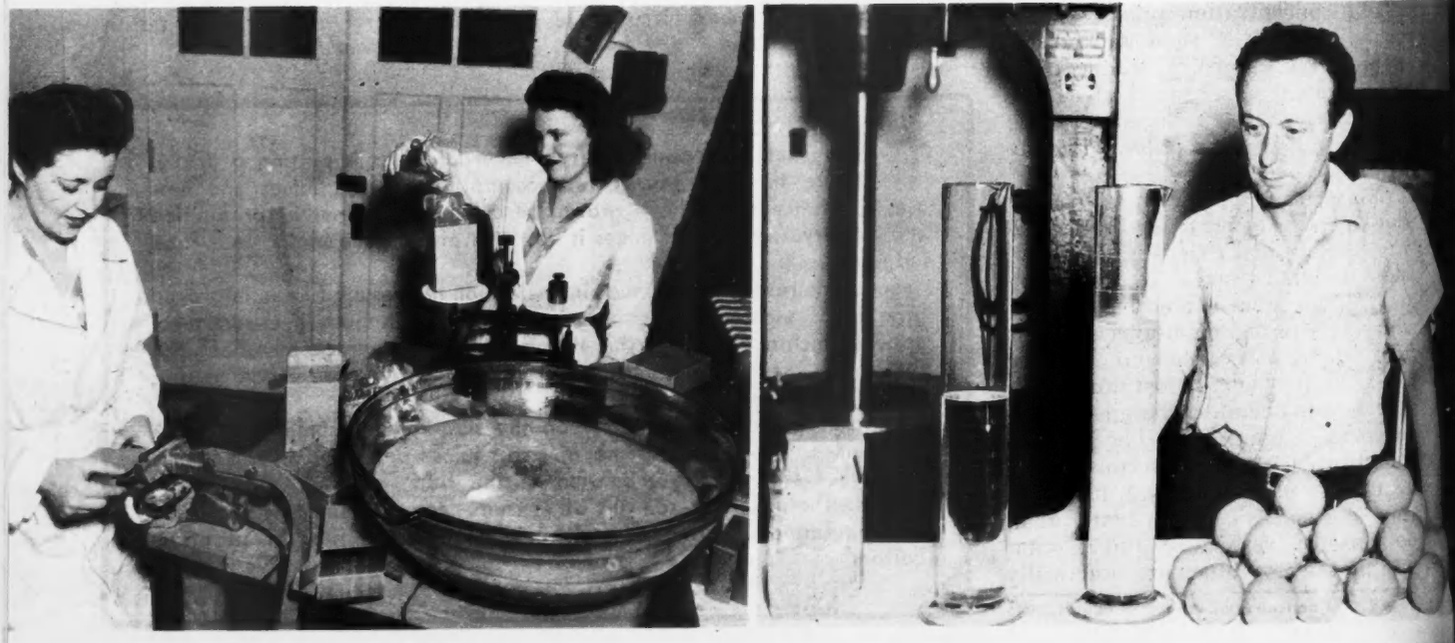
"The best orange concentrate has been made by using Pineapple, Valencia and seedling fruits," he avers. "The seedy varieties of grapefruit give a better concentrate than the seedless ones. All varieties of limes and lemons tried have yielded a good concentrate."

The method has been given limited commercial trial and found entirely satisfactory. The United States Army requested 25,000 gallons of orange concentrate for trial use, after its quartermasters had tasted the product, and would have ordered more lime concentrate than could be obtained from Florida's entire crop of this acid fruit.

Dr. Stahl also tested a new transparent fruit and vegetable wrapper made of a rubber hydrochloride and called Pliofilm. He found this wrapper to be far superior to other existing materials, since it permits carbon dioxide given off by the fruit or vegetable to disperse through the wrapper, but does not let moisture escape or disease organisms enter. It keeps both fruits and vegetables fresh for a much longer period than any other wrapper or storage without wrappers. An automatic wrapping machine has been developed to "stretchwrap" 1,000 fruits per minute at less cost than for paper wrappers. Since pliofilm is a rubber product, however, it is a wartime casualty so far as the civilian market is concerned. Like the cold concentration of citrus juice, it must wait until after the war to come to full fruition.

This scientist and his co-workers also have a quick-freezing and dehydration plant and are studying methods of freezing and dehydrating fruits and vegetables and ways to use them to best advantage after they have been preserved by these methods.

Above: Dr. A. L. Stahl, who developed the cold concentration process, watches the frozen orange juice roll out of the Flakice machine. The juice is frozen by this machine in a few minutes.



Below: The cold concentrated juice is packaged in cartons and sealed. Below right: Dr. Stahl observes a comparison of (right to left) fresh oranges, juice obtained from an equal number, water removed from the juice in the process, and the packaged juice concentrate. Three-fourths of the fresh juice is removed as water in the concentration process.

PROTECT ORCHARD WORKERS

AVOID THE Misery OF IVY POISONING!

POISON OAK

BY FRANK H. BEACH
Extension Horticulturist
Ohio State University

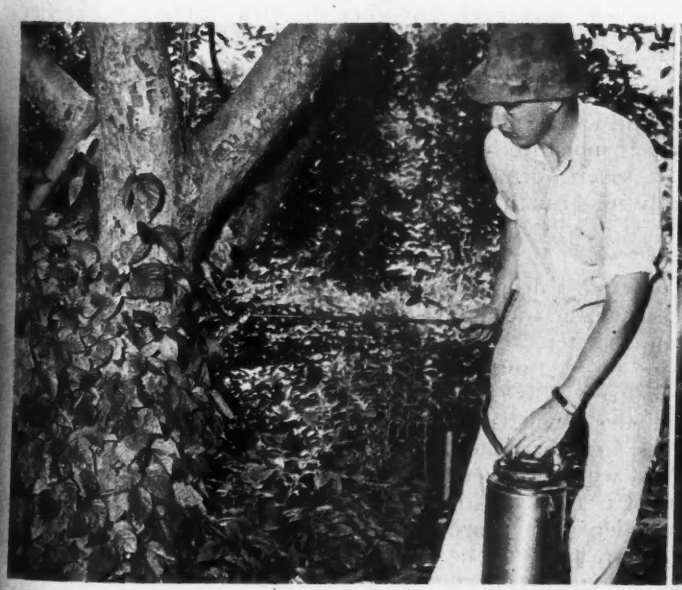
POISON IVY

IN many of the older apple orchards of Ohio, which carry grass sod between the trees, poison ivy has become a very serious pest beneath the branches. In many instances, the patches of ivy are so extensive that they cover approximately 1,000 square feet of ground area under and around the trees. In such cases, the ivy becomes so dense that it is a very serious weed pest competing with the trees for water and nutrients. Unless these weeds are controlled, they will reduce the size of fruit, the yield of the tree and they will gradually cause a deterioration of tree growth. Many apple trees show a considerable amount of dead and dying wood where large patches of poison ivy are allowed to develop from year to year uncontrolled beneath their branches. Apples which drop from the trees often are not picked up in poison ivy patches not only because it is difficult to see them, but because many of the workers are afraid to expose their hands when poison ivy is present.

These are all good reasons why orchardists should practice the spraying of poison ivy with one of the newer chemicals which will kill out the ivy and heighten the possibility of better producing trees, and lessen the risk of ivy poisoning to orchard workers. This year more than ever before, inexperienced workers are being and will be employed in orchards . . . workers who will not wear the proper work clothing, nor take precautions against poison ivy and poison oak. Therefore, it is the duty of the grower to protect his orchard workers by eradicating these weeds.

If you are not familiar with poison ivy just keep alert and look for low growing vines in patches that carry

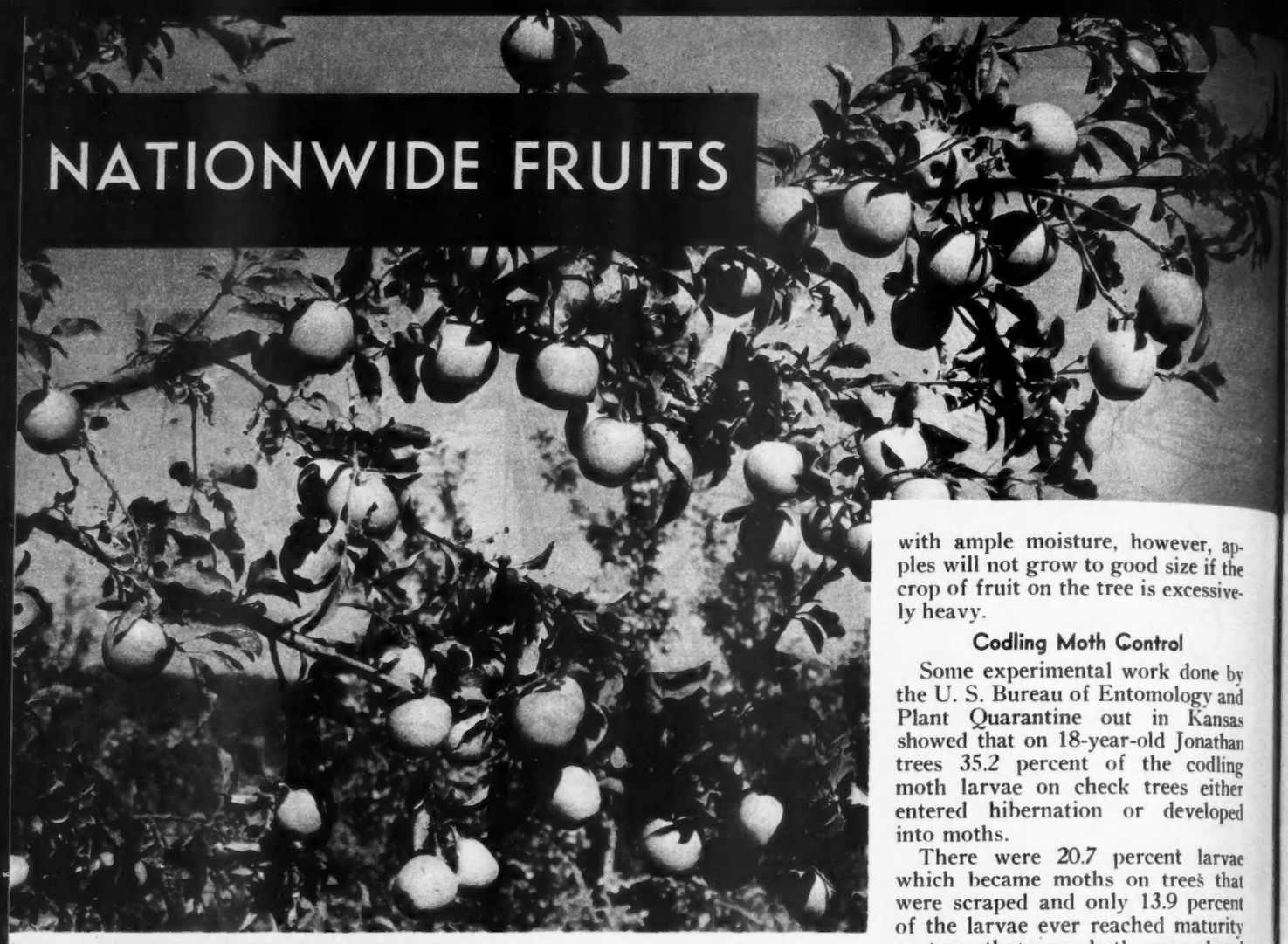
(Continued on page 14)



Listen brother, I wouldn't go near that poison ivy without hip boots, long sleeves and mittens!

Well, you must be immune! What's happened to that poison ivy and what's that new weed killer?

NATIONWIDE FRUITS



APPLES

Apples Grow at Steady Rate

Apples that grow to their full size must have ample moisture through the whole growing season. If an apple orchard suffers from drought for even a few days the final size of the fruit is reduced. Apples recover well from a droughty spell but they are not able to "make up" for slow growth in dry weather by extra rapid growth after a good rain, according to Dr. J. R. Magness of the U. S. Department of Agriculture.

Dr. Magness gives a picture of how and when apples make their growth in a recent article. In a typical long season variety of apple, such as Delicious, Rome Beauty, or Stayman Winesap, the growing period is from 150 to 165 days from bloom to maturity. This is divided into two periods, the first of approximately two months, and the main growing period of about 90 days. For two months after bloom the fruit grows relatively slowly and at the end of that time the small apples are only 15 to 20 percent as large as they may grow in a good year.

Steady growth then starts, and for the next three months an apple puts on each day an equal gain . . . provided soil moisture is adequate. Many day-to-day measurements of apple growth show this gain is almost uniform, a little less than one percent of the final weight each day. But, says Dr. Magness, "if moisture shortage slows down or stops the growth of the fruit for a part of this period, the final size will be correspondingly reduced." Thus, if the growth rate of the fruit is reduced by half for a dry period of 20 days, the final volume of fruit will be about 10 percent less than if moisture had been available. If severe drought results in practically no growth for a month, the final size will be reduced 30 percent.

Apples recover well from drought and may resume growth at the one percent rate but not faster. Slow growth is not "made up," no matter how ample the moisture. This is an important factor in the consistently large size of apples from irrigated orchards of the West where growers supply moisture as it is needed. In eastern orchards where rains are usually ample, there are likely to be temporary droughts, long or short, and each day of short supply means a smaller apple at harvest. Even with ample moisture, however, apples will not grow to good size if the crop of fruit on the tree is excessively heavy.

Codling Moth Control

Some experimental work done by the U. S. Bureau of Entomology and Plant Quarantine out in Kansas showed that on 18-year-old Jonathan trees 35.2 percent of the codling moth larvae on check trees either entered hibernation or developed into moths.

There were 20.7 percent larvae which became moths on trees that were scraped and only 13.9 percent of the larvae ever reached maturity on trees that were both scraped and banded with treated bands.

CHERRIES

Picking in the Rain

When it's cherry picking time for the big juicy sweet cherries of the Bing variety, growers hope for fair weather, because rained-on cherries are likely to crack. The fruits absorb enough of the rain water to pop their tender skins.

On this account, some cherry shippers have feared any conditions that might cause moisture on the surface of the cherries. After cherries held in cold storage for precooling are brought out they may "sweat" . . . that is, moisture may condense on the cold skins. Another precooling method is to dip them in ice water for about seven minutes before they are packed for shipment or placed in storage at close to freezing. Growers have feared this, too, thinking it would be as damaging as rain, says the U. S. Department of Agriculture.

Practical tests by fruit specialists of the Agricultural Research Administration show that neither method causes cracking from absorbed wa-

ter. Instead the fruit keeps better, tests by investigators in the Bureau of Plant Industry, Soils, and Agricultural Engineering show, because of the low temperature, since the spores of the fungi that cause decay do not germinate in the cold.

Cherry Town

Residents of North Ogden, Utah are so proud of their cherry trees that they celebrated the end of the cherry harvest and the past Independence Day all in one by naming their fair city "Cherry Town" for the day. This is the 12th annual celebration for the town of North Ogden where an all-day festival, ending with the Cherry Queen Ball, is the rule.

This year's bumper crop from the town's 100 acres was expected to bring orchardists about a half million dollars. Midwest markets received more than 20 carloads of cherries from North Ogden, most popular being the Bing and Lambert, with the white Royal Ann coming in as third.

During the picking season, women and school pupils are the chief source of labor for North Ogden Cherry growers. The children earn about $3 a day, being paid 2c a pound.

GRAPES

Grape Growing in the Ozarks

An expansion of grape growing, definitely not of the boom type, is promised in the Missouri Ozarks by two recent developments. The first and perhaps more significant is a 26-acre farm experimental project financed by the Agricultural Foundation of the Sears, Roebuck & Co., which tests wine and table grape varieties. The second development is a new grape juice plant of the Welch Grape Juice Company at Rosati, Missouri in the heart of an Italian settlement of Concord grape growers.

The vines for the initial plantings of varieties for the Sears project are being grown at the Mountain Grove Fruit Experiment Station of Missouri. This project will be supervised by W. L. Martin, extension director of horticulture.

Prior to the prohibition era, the Ozarks boasted of one of the major wine producing sections of the nation. It was centered at Hermann, Mo., where the Missouri Riesling and Norton's Virginia seedling varieties of grapes made wines the equal of European imports. It is now freely predicted that an acreage of wine grapes will, as a matter of course, induce wineries to locate in the producing areas.

CITRUS

Decay and Rind Injury

Two government scientists, working in Florida, recently discovered that proper treatment of harvested citrus with a certain chemical compound reduced fruit decay satisfactorily, but unfortunately increased rind injury so much that its use as a disinfectant was greatly limited. These two research workers decided to try another chemical, along with the one that retarded decay but increased rind injury, to determine whether the combination of the two compounds, rightly applied, might be the answer to their problem.

After further experiments, they found that the addition of formaldehyde to sodium ortho-phenyl-phenate, which inhibits decay of citrus fruit, largely eliminated rind injury which usually develops when the latter compound is used alone.

This important discovery was recently announced by Erston V. Miller, plant physiologist, and J. R. Winston, senior horticulturist, U. S. Horticultural Laboratory at Orlando, Fla., who emphasize that the mixture must be applied as a warm flood spray or bath and not as a mist spray. Encouraging results of their early tests lead Miller and Winston to make further studies under actual operating conditions in two packing houses. The Florida scientists report that a number of packing houses are prepared to use the treatment this season.

STRAWBERRIES

Fertilizers for Strawberries

The use of commercial nitrogen alone on newly set strawberry plantings gave very good yields without manure in tests made in the Oswego County strawberry belt in New York State as reported by Prof. R. C. Collison, soils specialist at the State Experiment Station at Geneva.

"The value of manure in small fruit plantings is clearly recognized," says Professor Collison, "but it should be used with certain precautions. It should either be well rotted or, if high in bedding materials such as straw or wood shavings, should be applied well in advance of strawberry setting. Perhaps even better, it may be supplemented with commercial nitrogen before plowing under, or a large enough application of nitrogen made to the plants in June to insure against a nitrogen shortage."

Side dressings made as late as August or September proved of doubtful value in the Station tests. Any nitrogen applications made after the fruit buds were formed also produced unfavorable effects. Neither phosphorus nor potassium were beneficial. The various nitrogen carriers used in the experiments were about equally effective on the basis of equal amounts of nitrogen. Fertilizer nitrogen delayed the peak of the picking season slightly, but this is an advantage under the marketing conditions in Oswego County.

PEACHES

Improved Peach Seed

The improvement of the quality of commercial peach seed by cracking the pits by some cheap mechanical means, separating out the well-developed seed of known viability, and using only the seed rather than the entire pit is suggested by results of a 10-year study of peach seed from various sources carried on by Dr. H. B. Tukey at the State Experi-

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STATE NEWS

MARYLAND—The growing season through June was freakish with scattered hailstorms, heavy winds that added to limb-rub injury and an unusual outbreak of late scab. The old reliable codling moth was emerging in a steady parade that rubbed out brood sequence adding to the difficulty of timing sprays. But as usual, the growers hoped to control this pest sufficiently to harvest a rather good crop.

Growers in some of the sections of Maryland where the fruit crop was badly reduced by spring freezes have set out large acreages of cannery tomatoes, and some growers used their orchard crews in the woods bringing out pulpwood and mine props. This removal of timber also served the purpose of clearing out pockets that interfered with good air drainage.—*A. F. Vierheller, Extension Horticulturist, University of Maryland.*

INDIANA—Due to the excessive rains, the pits of Indiana Elbertas are not developing and we are having a very heavy drop. In Knox County, a heavy prospect will be reduced by perhaps 50 percent, and this is general. Many growers have stopped thinning, waiting to see what is left. It is a condition that nobody can remedy either. —*K. I. Fawcett, Sec'y, Lafayette.*

MICHIGAN—Fruit crop prospects in Michigan did not improve during June. With the coming of warm weather after two months of cold rainy weather much fruit such as apples, which many growers thought had set, continued to drop off leaving us with a very short apple crop in our commercial producing sections. The apple crop looks best in the northern part of the state which is not a heavy producing area.

We have in prospect a good peach crop of 2,340,000 bushels which compares favorably with the ten-year average. The Michigan cultivated blueberry crop also looks very promising. Crops of all other fruits will be very light such as grapes, pears, plums, sweet and sour cherries.—*H. D. Hootman, Sec'y, East Lansing.*

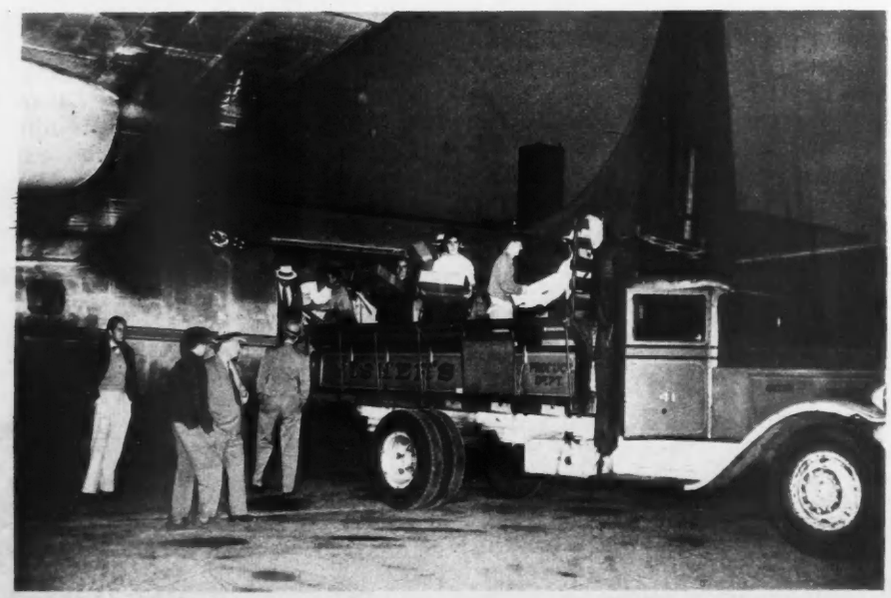
NEBRASKA—Fruit prospects for Nebraska for 1945 are about as follows: Apples are the lightest in years. The late freeze followed by damp cold weather at blooming time resulted in a very light set on Jonathans and other late varieties. The early sorts like Wealthy and Duchess are less than half a crop. Surprisingly enough peaches have a fair crop in spite of all the unfavorable conditions. The cherry harvest will be only half of normal but the size is unusually good. Leaf spot threatens to be a serious factor, however, for the 1946 crop . . . unless stringent efforts are made to control it from now on. The grape crop promises to be the best in years and black raspberries likewise. The strawberry crop was better than usual although much fruit went to waste because of the long rainy period during harvest time and also because consumers felt they could not afford to use their limited supply of sugar for making strawberry jam.

Thus far the codling moth is practically nonexistent but scab is unusually bad. A week of the usual type of weather we have in Nebraska at this time of the year will no doubt reverse the situation.—*E. H. Hoppert, Sec'y, Lincoln.*

CALIFORNIA—The largest shipment of fruits and vegetables ever carried by a commercial cargo plane in the United States, took off from Salinas, California on the Fourth of July, in the *City of Salinas*, the largest plane ever built for commercial air cargo. The plane carried a load of 2,000 pounds of Driscoll strawberries from Salinas, 4,000 pounds of peaches from Visalia, 2,000 pounds of apricots from Stockton, 4,000 pounds of tomatoes from Fresno, and 4,500 pounds of lettuce from Salinas; a total of 18,500 pounds, more than nine tons.

The giant new four-motor Consolidated-Vultee, *City of Salinas*, arrived at the airport in Cleveland, Ohio early on the morning of July 5th with these fruits and vegetables which were then 2,400 miles away from California fields and orchards. This specially built ship by Consolidated-Vultee, now chartered to the Ralph E. Meyers' Co., of Salinas, pioneer in air transportation of fruits and vegetables, will be operated by American Air Lines, and will become the flagship of the Meyers' Air Transport Fleet.

The fruits and vegetables were packed in small individual cellophane cartons and each head of lettuce was separately wrapped in cellophane, all labeled "Magic Carpet Air-Borne Foods." Because they were transported at high altitudes, no icing was necessary, thus preserving the farm-fresh flavor. Pictured below is the unloading of the plane at Cleveland.



NEW YORK—The New York State Horticultural Society started a printed news letter to members in May. The first issue was devoted to an analysis of why McIntosh apples did not move during the latter part of the season of 1944-45. The more important reasons were that ceiling prices resulted in too high retail prices and the poor quality and condition of McIntosh apples. The action needed is (1) To request Congress to change the price control act so that ceiling prices can be taken off when the size of crop is above average; (2) For growers to grow and pack better McIntosh and sell more of them in the fall and early winter. The second letter stressed the importance of immediate action to move the 1945 peach crop. Consumers, who have been informed all spring that fruit buds were frozen must be re-educated that New York will have 80 percent as many peaches as last year. Also more sugar must be obtained for canning, and consumers must be informed on how to can peaches with less sugar and with corn sirup.

Letters will be issued from time to time as information is available.—*T. E. La Mont, Associate Sec'y, Albion.*

STATE HORTICULTURIST WANTED

An excellent opportunity as State Horticulturist in Tennessee is open to anyone who can meet the qualifications. The applicant should have at least one college or university degree, having majored in Horticulture, and have some years of practical orchard experience. The salary is excellent, five cents a mile is allowed on a car and all expenses are paid while out of base, which will be Nashville.

The applicant should wire or send an Air Mail letter, filing abstract and request for further details to G. M. Bentley, State Entomologist and Plant Pathologist, 64 Biology Building, University of Tennessee, Knoxville 16, Tennessee.

NEW HAMPSHIRE—Only the northern tip of New Hampshire's fruit belt came through with anything like a fair apple crop because of freezes and poor pollination weather. In the southern part growers are reporting five and ten percent of an expected crop. Some northern Merrimack and Belknap County orchards report fair crop prospects. The production for the state is estimated to be between 200,000 and 300,000, as compared with an expected crop in the vicinity of a million bushels.

Pollenizers played a very important role this year in orchards that didn't get wiped out by freezes. Scab is serious, especially in orchards where no dust or spray was applied in bloom. Those who didn't put on

(Continued on page 20)

CROP INSURANCE

S-W STOP-DROP

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Plan now to prevent premature dropping of late varieties of apples—Jonathans, McIntosh, Red Delicious, Golden Delicious, Winesaps, as well as Bartlett pears.

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Remember, the apples and pears you pick—with full size and full color—are the ones that bring highest prices and biggest profits.

The savings made by preventing premature dropping easily amount to ten times the cost of this spray.

The enthusiasm of growers in every fruit belt of the country and their reports of 99% plus success with Sherwin-Williams STOP-DROP is due in no small part to the fact that Sherwin-Williams STOP-DROP is a standardized synthetic hormone spray. It comes in liquid form for spraying and as a dust. In either form STOP-DROP becomes effective within 24 to 48 hours after application and remains effective for two to three weeks—thus giving ample time to harvest the crop, even in the face of labor shortages.

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PROTECT WORKERS

(Continued from page 9)

the very characteristic three-leaf arrangement. Because of this leaf arrangement, poison ivy is one of the most easily identified vines. Occasionally you will find similar vines growing which carry five leaves and which may be recognized as the common woodbine. Often the two vines grow together over the same ground area. Woodbine is harmless when touched, but those who are susceptible to ivy poisoning should be alert to avoid body contact with the common three-leaf poison ivy or the notched three-leaf poison oak. The ivy is often found in fence rows and in any area that is not frequently mowed and allowed to grow up to natural cover. Those who work in orchards should be able to identify the ivy and take every precaution not to get in contact with it when picking fruit and particularly when picking up dropped fruit on the ground when hands and arms may be in contact with the poison ivy leaves.

People vary greatly in their susceptibility to ivy and oak poisoning. Some who are not affected can work in the ivy all day long without developing any of the "misery" of ivy poisoning. However, it is always well to wear high shoes or boots and leather gloves and not to work close to ivy if you have a susceptibility to this poison.

If those who have been exposed in the field will take a bath promptly with very strong soap, they will help considerably in preventing the development of ivy or oak rash. There are many lotions and ointments on the market to relieve the itching and distress of poison ivy rash and for any serious cases of poisoning, of course, a doctor should be consulted. I am sure we will experience much less trouble with poison ivy irritations in the future if folks will learn how to identify the plant, keep away from it if they are susceptible, and wear proper shoes, clothing and gloves to reduce the chances of exposure. If orchardists will eradicate the pest by spraying out patches of ivy with one of the promising new weed controls for this purpose, workers will not have to worry about avoiding them.

A few years ago considerable progres was made in the control of poison ivy by spraying or dusting with sodium chlorate. However, this material is highly inflammable when mixed with organic substances such as soaked boards, soaked sacks, or soaked clothing or shoes, and the fire hazard associated with the use of sodium chlorate has been considerable. As

new materials have developed which carry no fire hazard in connection with their use, they have become preferred for the control of poison ivy in the orchard. One of the newer materials which is now most generally used is amonium sulfamate. Ammate is one of the common trade names for this material.

For killing poison ivy a spray solution made up to contain ¾ to one pound of ammonium sulfamate weed killer per gallon is usually satisfactory and will be sufficient to treat about 100 square feet of poison ivy ground surface. Recently some very interesting experimental work has been conducted with 2, 4-dichlorophenoxyacetic acid which is now available on the market under the trade name of Weedone. This material provides a low-cost satisfactory control for poison ivy and many other broad-leaved weeds, such as dandelions in lawns, bindweed in fields, narrow and broad-leaved plantain and other troublesome weeds. Those who have infestations of poison ivy should be alert to get and use these new materials.

Best results have been obtained in control applications for poison ivy when treatment is made sometime between the middle of May and the middle of September. The best time for application of weed killer sprays seems to be when the plant has developed its maximum foliage and is at the height of it growing season. Sprays are most efficiently applied as a rather coarse spray at rather low pressure to prevent the roll and the drift of fine mist that is present when the material is discharged under high pressure. In spraying poison ivy or poison oak patches under apple trees, care should be taken to keep the material from drifting to low branches. When the ivy on the trunks of trees is sprayed, get as little of the solution on the trunks and lower limbs as possible, directing the material primarily to wetting the ivy.

Any of the chemical weed-killers can be applied with a small hand-type compressed air sprayer when the eradicating is to be done on a small scale, or when time and labor costs are not too important, the hand-type sprayer also may be used for a larger infestation. When there is a great deal of poison ivy to be destroyed, portable orchard sprayers can be used for applying the weed-killers. On a large scale, this is likely to be the cheaper way. The sprayer tank, pump and hose should be washed out several times before this equipment is again used for regular spraying. If this precaution is not followed, the trees may receive severe injury from the first

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NATIONWIDE FRUITS

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ment Station at Geneva, New York.

The nursery-grown peach tree is produced by budding the desired variety on a seedling grown from a peach pit, explains Dr. Tukey. East of the Mississippi, nurserymen have long depended upon so-called "naturals" or wild peaches growing in the Appalachian Mountain region for seed. "During the decade of 1930-40," says Dr. Tukey, "the supply of 'naturals' was greatly reduced, due in part to the phony peach disease and the campaign to eradicate wild peach trees. During the same period, severe winters injured and killed many peach trees so that the demand for trees for orchard planting has greatly increased."

In his attempt to improve the stocks of peach seed for nurserymen, Dr. Tukey has tested numerous samples of "naturals" from the Appalachian Mountain region, together with known varieties from canning factories in Georgia, New York, and California. A total of 187 samples of peach pits have been tested over a 10-year period.

There appears to be no outstanding superiority of one region over another as a source of peach seed, says Dr. Tukey. Also, there appears to be little choice as to variety, age of seed, and year of production. There are sufficient quantities of seed of good performance available to make it possible to establish uniform and reliable sources of peach seed for the nursery trade by cracking the pits and separating out the well-developed seed of known vitality. In this way much inferior and poor quality seed would be eliminated, concludes Dr. Tukey.

Fruit Kept from Discoloring

When the flesh of a peach turns brown it is the result of a chemical change caused by oxygen in the air. This has proved a difficulty in handling some forms of peach products. In canned peaches, sugar sirup protects the fruit from oxygen, but in dried and some frozen peach products oxygen acts unless the fruit is treated with heat or a chemical to prevent the oxidation. Recent research has developed a new approach . . . addition to the product of an exactly measured quantity of one of the class of chemicals known as antioxidants.

From the processor's point of view, one chemical is likely to prove popular, according to scientists at the Western Regional Research Laboratory of the U.S. Department of Agriculture. The chemical, l-ascor-

bic acid, has proved to be an effective anti-oxidant in preventing darkening of the peach flesh. This chemical is also the synthetic vitamin C. Under the Food and Drug laws, the label would, of course, have to include a specified type of statement regarding the added vitamin C content of the treated product.

The scientists at the laboratory say that anti-oxidants have been used mainly with peaches so far, but that they are likely to be used with other fruits that discolor when exposed to oxygen . . . nectarines, apricots, sweet cherries, plums and prunes.

Nuts in Northeast Forests

More different kinds of native edible nuts are growing in the northeastern quarter of the United States than in any other area of equal size in the temperate zones, north and south. This is the list: Black walnut, butternut, shagbark, shellbark and red hickories, pignut, mockernut, American and beaked filberts, chinkapin (a dwarf chestnut), and northern pecan. There were also vast forests of chestnuts before they were largely destroyed by blight.

English Walnut Disorder

Applications for borax broadcast around the trees has corrected a Persian (English) walnut disorder known for more than 20 years to occur in orchards on certain soils in the Pacific Northwest and called variously dieback, snake head, baldhead, and winter-kill, as well as an associated leaf-scorch condition. In one instance, trees after treatment averaged 185 pounds of nuts per tree in 1943, while similarly affected untreated trees yielded 29 pounds.

PROTECT WORKERS

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several tankfuls of regular spray material.

If you have not protected your workers by killing the poison ivy and poison oak in your orchard, it is still not too late. Do it now, and either next spring or summer you can conduct a follow-up control campaign. If the work is done carefully and methodically, practically perfect control should be obtained with the new chemical weed killers. If the original job is done properly, the check-up control should take but little time or material.

FRUIT OUTLOOK

According to the July Crop Report of the United States Department of Agriculture the aggregate production in prospect for the 8 major deciduous fruits (apples, peaches, grapes, pears, cherries, plums, prunes and apricots) for 1945 is 13 percent less than production in 1944 and 3 percent less than average. Record short crops of apples and sour cherries more than offset a record high peach production and large crops of pears, grapes, sweet cherries, and prunes. By regions, prospective fruit production is large in the west and southeast and generally small from Virginia north, and in the States bordering the Great Lakes region.

Condition of citrus crops on July 1 was above average in California, Arizona and Texas but considerably below average in Florida. However, the extended drought in Florida citrus areas was broken by heavy rains the third week in June, improving production prospects. In the Texas citrus area, a critical shortage of moisture was reported to be developing.

Commercial Apples

The Nation's apple crop in commercial areas was indicated on July 1 to be 69,962,000 bushels—a record low production and 21 percent below the small 1943 crop of 89,090,000 bushels. The 1944 crop totalled 124,754,000 bushels and the 10-year (1934-43) average is 119,391,000 bushels.

Peaches

The 1945 peach crop, now estimated at 80,369,000 bushels, is a record high and compares with 77,846,000 in 1931, the previous record production. The 1944 crop totalled 75,963,000 bushels and the 10-year (1934-43) average is 57,201,000.

Pears

Production of pears is now estimated at 32,861,000 bushels—about 3 percent larger than last year's crop of 31,956,000 bushels and 15 percent more than the 10-year (1934-43) average production.

Grapes

U. S. grape production is indicated to be 2,736,400 tons—approximately the same as the crop of 2,736,550 tons produced in 1944, but nearly 11 percent above the 10-year average.

Cherries

Production of all varieties of cherries in the 12 commercial states is estimated at 127,500 tons—37 percent less than the 1944 crop of 202,090 tons, and 17 percent below the 10-year average of 153,141 tons.

Plums and Prunes

Production of plums in California and Michigan is estimated at 72,700 tons. This compares with last year's record production of 98,200 tons and the 10-year average of 71,130 tons.

The 1945 crop of prunes for all purposes in Washington, Oregon and Idaho is estimated at 151,200 tons (fresh basis) compared with 110,300 tons for 1944 and the 10-year average of 142,930 tons.

IN THE NEWS

JOHN W. ROBERTS

Dr. John W. Roberts, fruit tree pathologist, a research worker in the U.S. Department of Agriculture for 36 years, retired recently. Outstanding among his contributions to the control of orchard diseases was the introduction of zinc-lime in peach sprays for bacterial spot and the discovery that it had a stimulating effect on the trees and was a corrective for injury caused by arsenic in the sprays.

J. W. Roberts

Dr. Roberts' researches have contributed much to a better and more economical supply of many fruits. His investigations have improved the control of diseases of the peach, plum, cherry, and apple, particularly in the case of bacterial spot and brown rot of the peach and bitter rot of apples. He has also contributed widely to the knowledge of the life histories of many of the fungi that cause some of these diseases. He and his associates have been responsible for the introduction of the newer fungicides now in wide commercial use; including insoluble copper, dithiocarbonate chemicals and organic type fungicides.

Dr. Roberts' future home will be at Winter Haven, Florida.

HERBERT OSBORN

Herbert Osborn, emeritus professor at Ohio State University since 1933, has probably trained more professional entomologists than has any other professor of entomology.

Herbert Osborn

Born at Lafayette, Wisconsin on March 19, 1856, Professor Osborn received his B. S. degree from Iowa State College in 1879, his M. S. degree in 1880, and also his D. Sc. degree in 1916. In 1930, the University of Pittsburgh conferred the LL. D. degree upon him as did Ohio State University in 1936.

In the state of Iowa, Professor Osborn was professor of entomology until 1898 at Iowa State College and entomologist of the State Experiment Station. He was state entomologist of Iowa in 1898.

Coming to Ohio State University in that year he became professor of zoology and entomology until 1916 when he was made research professor. He was Director of Lake Laboratory at Ohio State from 1898 until 1918.

Professor Osborn has ably filled many government and state posts among them being Special Agent for the Division of Entomology of the U. S. Department of Agriculture from 1885 until 1894, Consulting Entomologist of the Tropical Plant Research Foundation in 1925 and a trustee of the same foundation from 1926 until 1943. He has been a collaborator of the U. S. Bureau of Entomology since 1930.

As well as being a member and holding office in many entomological and scientific societies, Professor Osborn is also a very prolific writer. Among his many works are: *Pediculi and Mallophaga of Man and Lower Animals, Insects Affecting Domestic Animals, The Hessian Fly in the United States, Agricultural Entomology, Leafhoppers of Ohio, Fragments of Entomological History,* and *Meadow and Pasture Insects.*

BENNET A. PORTER

The Department of Agriculture has selected Bennet A. Porter to head the Division of Fruit Insect Investigations in the Bureau of Entomology and Plant Quarantine, Agricultural Research Administration.

Dr. P. N. Annand, Chief of the Bureau, has announced that Dr. Porter will succeed Delos L. Van Dine, who retired from Government service recently, after having served as head of the fruit insect work since February, 1933. This division is concerned with investigations on and the development of control measures for insects affecting fruits, fruit trees, nuts, grapes, and certain small fruits.

Dr. Porter has been connected with the work of the division that he will now head since June 8, 1917. For the past 17 years he has served as assistant leader of the division.

OPPORTUNITY ADS

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STRAWBERRY PLANTS — BLAKEMORE, MISSIONary at 100 for $2.00; 500 for $5.00; Postpaid. 1000 for $8.00. Everbearing at $15.00 per 1000. Boysenberry thornless at 20c each. JOHN LIGHTFOOT, Birchwood, Tenn.

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CRATH ENGLISH WALNUT TREES, SOME SMALL, some large, some crooked, some straight. Small, 2 to 3 dollars; very large, 6-8 ft. $10.00, with sizes and prices in between. CARPATHIAN NURSERY, Dallas City, Ill.

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WATCHES WANTED—BROKEN OR USEABLE—ALL kinds, even Ingersolls. Highest prices paid for jewelry, rings, spectacles, alarm clocks, razors, cigarette lighters, gold teeth, etc. Cash mailed promptly. LOWE'S, Holland Building, St. Louis 1, Missouri.

WANTED—ORCHARD MANAGER

IF YOU KNOW HOW TO GROW TOP QUALITY apples under irrigation, how to store and package them, and would like to take full working charge of a 2000 Stark tree, six year old orchard, in a practically frost-free, uninfected spot, with a good salary, good house, and share in profits from my mail order selling, write fully about yourself to JAMES W. YOUNG, Pena Blanca, New Mexico.

WELDING

MAGIC ELECTRIC WELDER, 110 VOLT AC-DC; welds, brazes, solders, cuts all metals, easy to use; full directions. Complete with power unit, flame and metallic arc attachments, carbons, fluxes, rods, mask. Guaranteed One Year. Only $19.95. Used by the Navy. Splendid for farm use. MAGIC WELDER MFG. CO., 241 LS Canal St., New York, New York.

STATE NEWS

(Continued from page 12)

fungicides in bloom question whether the set was improved and they know the scab is bad. Growers are trying to care for what few apples they have from now on because they feel they will bring good money.—*Alfred L. French, Sec'y, Concord.*

CONNECTICUT—The Connecticut apple crop will be extremely light this year, according to fruit growers' estimates made at a meeting at the Lyman Orchards, Middlefield, on Saturday, June 23. There were 50 commercial orchards represented and, compared to last year's crop, they were expected to produce about 35 percent as many McIntosh, 65 percent as many Baldwin and 45 percent as many of all varieties. Those familiar with general state conditions still feel that the apple crop as of June 25 promises to be from 35 percent to 40 percent of that produced in 1944 or perhaps about 25 percent to 30 percent of a full crop.

It is estimated that one-third of our crop loss this year can be attributed to spring frost and two-thirds to poor pollination weather during bloom, resulting in a poor set of fruit and a heavy June drop. The McIntosh drop during the past two weeks has been very heavy.

Apple scab has been a serious problem in 1945 because of the prolonged rainy periods. Rosy and green aphids have been a problem in a few orchards but the plum curculio injury has been generally light. European red mites have been extremely light in Connecticut this year. The 17-year locust outbreak in central Connecticut has been very heavy in a few orchards. Entomologists are experimenting with various materials and methods of control, hoping that they may succeed in checking this pest. —*H. A. Rollins, Extension Fruit Specialist, Storrs.*

OHIO—Wednesday, August 8th, is the date announced by J. H. Gourley, Chief of the Department of Horticulture, as the twenty-third successive Orchard Day at the Ohio Agricultural Experiment Station, Wooster, Ohio.

The work of the Horticultural department will be explained by the specialists in charge. Special attention will be given to the training and pruning of young trees and to the effects of summer, autumn, and dormant pruning on the after-condition of fruit trees. There will also be given the story of a 30-year-old orchard which has been partly in cultivation and partly in mulch throughout this period, as well as the vield and quality of fruit and cost of production of this orchard. The growing and care of a young peach orchard, now in its third year, as contrasted with an older orchard, will be discussed with those in attendance. Some new work in leaf analysis as a guide to the fertilization of apple and peach trees should be of interest to those who are in commercial orcharding.

The use of home freezing units and the construction of cold storages will be shown in connection with the special exhibits.

The Departments of Botany and Entomology will exhibit disease and insect injuries to fruits and fruit trees; they will suggest means of control wherever possible.

Professor M. A. Blake of New Jersey, who originated several of the new peach varieties such as Golden Jubilee and Cumberland, will be the principal speaker in the afternoon.

The State Horticultural Society is cooperating with the Station in making this Orchard Day of interest to Ohio orchardists.

MAINE—A series of orchard meetings June 18 to 22 was sponsored by the Pomological Society but arranged jointly by O. L. Wyman of the Extension Service and S. L. Painter, State Horticulturist. Professor W. H. Thies of Massachusetts and Dr. F. H. Lathrop of the Maine station were the principal speakers. Topics included apple orchard management practices for obtaining optimum yield consistent with good fruit color, how to meet the exceptional scab situation, and the control of apple insects. Since Maine growers are producing apples of high color, perhaps we should send out the missionary. At least it seems unlikely that many have used so much nitrogen as to cut down color unduly.

In experimental spray plots at Highmoor Farm, trees sprayed five times (to date of writing) with lime-sulphur show scab on 40 percent of their leaves. Wettable sulphur plots, of course, show even more scabs. Not only has the rainy spring and early summer favored scab, the long-drawn-out blossoming period included several freezes and but few hours favorable for pollination. The drop is reported to be very heavy and still in progress (June 30). The state apple crop may well fall below 50 percent.

Does any reader know of the existence of the old variety Fall Orange, sometimes known also as Holden Pippin?—*J. H. Waring, Professor of Horticulture, University of Maine.*

KANSAS—The Missouri River district apple prospects and yield is light to very light except for early varieties such as Transparent, Duchess, and Wealthy. Mr. James Sharpe of Council Grove claims his orchards have one of the best crops of apples in many years. The Arkansas Valley promises a fair crop except Winesap. Coffeyville district and southeast Kansas have a lighter crop than last year.

The peach and pear crop seems to be coming through with a fair to good yield and well distributed over the fruit section of the state. There is a fair crop of small fruit and a grape crop that promises to be one of the best. Our gravest problems are created through the lack of sugar and scarcity of help.—*Geo. W. Kinkead, Sec'y, Topeka.*

IDAHO—The Idaho State Horticultural Association held a summer meeting on Sunday, July 15. A picnic dinner at the Symms Fruit Ranch in Sunny Slope was enjoyed by the 150 members who attended. A short informal business session was held with Gordon Saxton, president, presiding.—*A. Harold Davidson, Sec'y, Nampa.*

MISSOURI—At the present time it appears that Missouri will for the first time in history produce more bushels of peaches than apples. Present indications are for a total crop of approximately one million bushels of peaches as compared with a commercial crop of approximately three-quarter million bushels of apples.

NEW BOOKS

The Encyclopedia of Fruits, Berries And Nuts and How To Grow Them

By Albert E. Wilkinson

Specially planned for the home gardener, this book is a complete and well-illustrated guide for the successful growing of all varieties of fruits, berries, and nuts that can be grown in the United States.

Part I of the book is an alphabetically arranged Encyclopedia of all the familiar as well as the lesser known fruits. Part II is the "Gardener's Guide" which brings together all the general information on home fruit gardening.

The Chemical Formulary

By H. Bennett

Behind this imposing title there are 2500 formulas for making almost anything easily, quickly and inexpensively at home, including a wealth of practical helps for gardeners and farmers. The first general publication of directions for making up the famous DDT insecticides is only one of its many aids to farmers. Full directions for making almost any other mixture needed for garden, home and livestock care are included in this 453 page volume.

THE KEYS TO SUCCESS

(Continued from page 5)

Or, you might go a little deeper and ask the average worker whether he prefers calcium or magnesium lime in the spray tank?

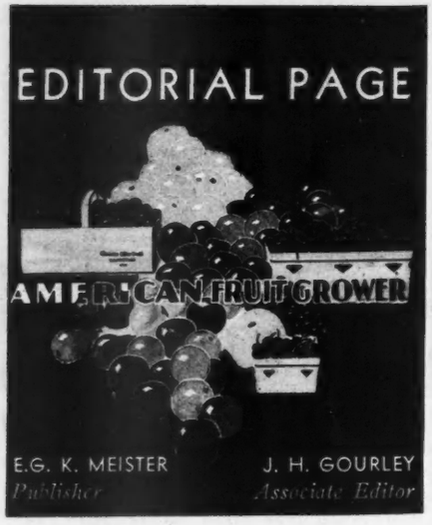
How in the world is it possible for a man to do a thorough job if the work is made to represent a deep mystery only understandable to the "Boss"? What incentive has a man, other than his pay, to do the job in such a manner that it will benefit both himself and the employer in the result of a day's job?

Personally I intend to hold hourly sessions one day a week with my men to explain the *Whys and Wherefores* of fruit growing. Possibly the first hour will be devoted to lectures and the second hour to round table discussion. I have no fear of any week passing without a discussion due to lack of material for debate. The time will be well spent. I expect a far greater return than sending them out to do a job they know nothing about other than the mere mechanics of the work.

I believe also that it will do me a lot of good to look up the answers to the questions that will no doubt be put to me regarding the identification of disease and insect injury, how much potash can trees benefit by, or, the benefits of cooperative marketing.

A Pennsylvania Grower

We do not know the name of this grower because he has written to us anonymously, but we venture a guess that he was once a manufacturer since he knows how to apply business methods to fruit growing. He gives growers sound advice.—Ed.



Editorial By John Chandler

HERE IS AN EDITORIAL sent to members of the National Apple Institute by John Chandler, Executive Secretary of the Institute. It has food for thought for fruit growers. . . .

"Anyone going about the retail markets these days is struck with the fact that extremely poor quality fruits of all kinds are being offered the public at extremely high prices. One sees the kind of fruits that would ordinarily be cheap: peaches, oranges, grapefruit, melons and early apples of mixed sizes, quality and condition, all jumbled in together with a truly quality price tag on each lot.

"To be sure the consuming public is buying this fruit. It has no choice in the matter. At the same time the industries which produce this fruit are making enemies of millions of disgruntled housewives. It is not that consumers resent the price. Many of them have the money and are willing to pay. What does make them mad is the evident lack of careful grading and packing, the low average quality, the wastage they are obliged to pay for and take home.

"We are fully aware that the coming apple deal, like that of 1943, will not require any sorting and packing whatsoever. Probably anything with a skin around it will sell for the f.o.b. ceiling. For the nearsighted, any money spent in grading and packing will be thrown away, for it is obvious that apples merely dumped into the box 'as is,' nailed up and shipped along will take the ceiling.

"But will money spent in 1945 for the careful grading and packing of apples be thrown away? We doubt it. Here is perhaps the last chance we will get to re-establish the confidence of the consuming public in the apple industry before we will have to be out with all our advertising and promotion, urging the public to buy our products at low prices. Then we will be obliged to pack perfection.

"Right now, with all competitive fruits in the consumer dog house, let us spend some money in the kind of publicity that will make a lasting impression. Most of us have had a couple of good years. The five or ten extra cents per box will be worth all it costs, and anyway Uncle Henry Morgenthau has his fingers out for those dimes if we fail to spend them to maintain our packs.

"It appears to us that a golden opportunity is being handed us by our competitors, an opportunity to impress on the public mind the integrity of the growers of apples. Let us all stop and think before we depreciate the quality of our product, as we so easily can, for a handful of inflationary silver. Let us also be alert not to allow our agents to show us how they can save us a whole dime a box by simply jumbling our fruit and getting the same beautiful ceiling price. In the last analysis, the decision and the responsibility will rest with the apple grower himself."

Certificate of Merit

IN PUBLIC RECOGNITION of its outstanding service to the nation and to the apple business during the war emergency, the Fresh Apple Industry Advisory Committee has had conferred upon it Certificates of Meritorious Service for "sound advice and devotion to the welfare of the nation." The Certificates were presented by Price Administrator Bowles at a meeting of the Committee in the Office of Price Administration National Office at Washington in June.

The apple industry can well be proud of its Committee since the award it received is only the second such award in the entire food field.

The members of the Committee who received the award are as follows: Ruben G. Benz, Chairman, Mgr., Cawicot Growers, Yakima, Washington; Henry W. Miller, V. Pres., Consolidated Orchard Co., Paw Paw, West Virginia; Ralph M. Dorsey, Dorsey Bros., Berryville, Virginia; C. E. Dutton, The Ohio Orchard Co., Milford Center, Ohio; J. E. Klahre, Mgr. Apple Growers Assn., Hood River, Oregon; John Lyman, The Lyman Farm, Middlefield, Connecticut; Wesley Ten Broeck, Hudson, New York; M. E. O'Dea, Sebastopol Growers Union, Sebastopol, California; John B. Peters, Mgr., Cooperative Fruit Growers, Aspers, Pennsylvania; Paul Scea, Pres., International Apple Assn., Wenatchee, Washington; Paul Stark, Stark Bros. Nurseries, Louisiana, Missouri; C. C. Taylor, Albion, Michigan.

Protect Orchard Investments

IN AN INTERESTING appraisal of the economic position of the fruit grower in the postwar period, S. H. DeVault, Head of the Department of Agricultural Economics and Marketing at the University of Maryland in the *Maryland Fruit Grower* predicts that the long-time outlook for agricultural products is for decreased foreign trade. At home, the level of employment and income will shape the long-range outlook for domestic demand. Unless we have full employment in industry and a high national income, says Mr. DeVault, we cannot expect to have a good domestic demand for farm products and high farm prices.

In order that the fruit grower might strengthen his economic position, Mr. DeVault suggests that he follow six particular lines of action. First of all, growers should recapture and strengthen their export market. In forming this program, a united front is needed. Some organization, such as the U. S. Horticultural Council, that would have authority and bargaining power in dealing with countries on problems relating to foreign trade, could point the way.

Secondly a never-relaxing effort must be made to increase fruit consumption. To attain this, closer cooperation among growers will be necessary as well as better advertising, better cultural practices, better packing and packaging, and improved sales and merchandising methods.

Mr. DeVault further suggests that growers narrow the spread between the price the producer receives and the price the consumer pays. Startling is the fact that consumers pay about two and one-half times the price producers receive for fresh fruits. Fruit growers would do well to consider means of shortening the channels of distribution and thus lower the cost.

Just as important as other factors to be considered are the improvement of market facilities and the dangerous overexpansion in the orchard. Reduction is needed in the cost of transporting, wholesaling, jobbing, and retailing of fruits through inefficient and obsolete facilities. Increased plantings in the orchard are usually stimulated by high prices for fruits, and overexpansion of the orchard is a pitfall that the grower should avoid.

Lastly Mr. DeVault believes that growers should be alert to take advantage of new and proven developments in science. An increasing proportion of the fruit crop should be canned and frozen as materials and equipment are made available. It is with such developments as these that new market outlets as well as old ones can be reached throughout the year.

Tough Enough To Bridge The Rhine...

When our armies began the final push into Germany, nothing could stop them – not even blown-up bridges. For the Engineers were ready – with the now famous Bailey Bridge Sections.

These light but tough pieces of "overgrown Erector sets" were moved up, by truck and by night. At a signal, Army Engineers assembled them *by hand*, slipped bolts into ready holes. In crossing streams and small rivers no supports were needed – the bridges were simply edged out from shore on rollers when assembled. For the Rhine crossing, Bailey Bridge Sections were straddled over pontons or demolished bridge piers.

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